RECLAMATION
Managing Water in the West

DRAFT ENVIRONMENTAL IMPACT STATEMENT

ASPINALL UNIT OPERATIONS

ASPINALL UNIT—COLORADO RIVER STORAGE PROJECT GUNNISON RIVER, COLORADO

Executive Summary
2009

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INTRODUCTION

The Bureau of Reclamation (Reclamation) proposes to implement a plan to avoid jeopardy to four endangered fish in the Gunnison and Colorado rivers downstream from the Wayne N. Aspinall Unit, a Colorado River Storage Project water development facility in western Colorado. The draft environmental impact statement (DEIS) explains the process of identifying and defining endangered fish needs, alternative manners of releasing water from the Unit, impacts of implementing alternatives, and the selection of the preferred alternative. The DEIS complies with the National Environmental Policy Act of 1969 (NEPA).

The Aspinall Unit consists of Blue Mesa, Morrow Point, and Crystal dams, reservoirs, and powerplants on the Gunnison River. The Aspinall Unit has not significantly changed the annual volume of water flowing downstream but has changed the natural river flow pattern by storing a portion of the spring runoff and increasing flows during the remainder of the year to meet a variety of purposes. Reclamation manages water within certain sideboards that include annual snowpack conditions, downstream senior water rights, minimum downstream flow requirements, powerplant and outlet capacities, reservoir elevation goals, contracts and agreements, fishery management recommendations, dam safety considerations, and others.

Authority for the action is based on the Colorado River Storage Project Act and the Endangered Species Act (ESA).

PURPOSE AND NEED

The purpose of modifying the operations of the Aspinall Unit is to provide sufficient releases of water at times, quantities, and duration necessary to avoid jeopardy to endangered fish species and adverse modification of their designated critical habitat while maintaining the authorized purposes of the Aspinall Unit[1]. The biological

[1] Authorized purposes include regulating the flow of the Colorado River, storing water for beneficial consumptive use, making it possible for states of the Upper Basin to utilize, consistently with the provisions of the Colorado River Compact, the apportionments made to and among them in the Colorado River Compact and the Upper Colorado River Basin Compact, respectively, providing for the reclamation of arid and semi-arid land, for the control of floods, and for the generation of hydroelectric power, as an incident of the foregoing purposes.

assessment prepared in conjunction with the EIS is designed to complete ESA compliance for the Aspinall Unit as well as provide ESA coverage for private and other public water uses in the Gunnison Basin.

The Upper Colorado River Basin at one time was inhabited by 14 native fish species, four of which are now endangered. These four fish are the Colorado pikeminnow, razorback sucker, bonytail, and humpback chub; they exist only in the Colorado River Basin. The four fish are endangered because of adverse impacts to their habitat over the last 125 years. The two types of habitat impacts that appear to have the greatest effect have been water development and introduction of nonnative fish.

ALTERNATIVES

The range of alternatives developed for the EIS was initially formulated and subsequently evaluated using hydrologic modeling, operational discretion, and considerations for the following:

- Authorized purposes of the Aspinall Unit
- Applicable water rights, contracts, law, interstate compacts, court decrees, and various rules, regulations, policies, and directives
- Goals of the Upper Colorado River Endangered Fish Recovery Program and *Flow Recommendations to Benefit Endangered Fishes in the Colorado and Gunnison Rivers* (Flow Recommendations) prepared by the Recovery Program
- Public and agency input during development of the EIS
- Informal consultation with the Fish and Wildlife Service under the Endangered Species Act
- Flood Control procedures for the Aspinall Unit established by the U.S. Army Corp of Engineers to provide flood protection for areas along the Gunnison River downstream to Grand Junction, Colorado.

A representative range of alternatives was selected to evaluate in detail in the DEIS. Informal consultation was held with the Fish and Wildlife Service and other cooperators to develop hydrology model runs that better met peak, duration and base flow needs of the endangered fish. Five alternatives, including a No Action Alternative, are evaluated in the DEIS. Action alternatives were designed to increase spring peak flows downstream from the Aspinall Unit while protecting base flows.

The No Action Alternative represents a projection of current operating practices to the most reasonable future conditions that would occur without any action alternatives being implemented. Specific operations to assist in meeting Flow Recommendations are not included in the No Action Alternative.

A Risk of Spill Alternative (Alternative A) was developed to manage water that is in excess of Aspinall needs (such as filling Blue Mesa and producing hydropower) and

using this water to provide increased spring peaks. Base flows, minimum flows, and ramping rates are included.

Alternatives B, C, and D differ from Alternative A in that they attempt to meet specific downstream spring peak and duration flow targets, using reservoir storage if necessary. Targeted flows, measured in the lower Gunnison River at the U.S.G.S. Whitewater Gage, vary from less than 2,000 cfs in dry years to over 14,000 cfs in wet years. Base flows, minimum flows, and ramping rates are included in these alternatives. The following tables summarize spring peak targets and duration of peaks for these alternatives:

Spring Peak and Duration Targets for Range of Forecasted Inflows, Alternative B.

Blue Mesa Forecasted April-July Inflow	**Desired Peak at Whitewater**	**Duration of Half-Bank *(8,070 cfs)***	**Duration of Bankfull *(14,350 cfs)***
Acre feet	**cfs**	**Days**	**Days**
< 381,000	900	0	0
381,000 to 516,000	2,600 to 8,070	0	0
516,001 to 709,000	8,070	10	0
709,001 to 831,000	8,070 to 14,350	20	2
831,001 to 1,123,000	14,350	40	10
>1,123,000	14,350	60	15

Spring Peak and Duration Targets for Range of Forecasted Inflows, Alternative C.

Blue Mesa Forecasted Inflow	**Desired Peak @Whitewater**	**Duration of Half-Bank *(8,070 cfs)***	**Duration of Bankfull *(14,350 cfs)***
Acre feet	**cfs**	**days**	**days**
< 381,000	900	0	0
381,000 to 516,000	2,600 to 8,070	10	0
516,001 to 709,000	8,070	15	0
709,001 to 831,000	8,070 to 14,350	25	3
831,001 to 1,123,000	14,350	60	20
> 1,123,000	14,350	100	25

Spring Peak and Duration Targets for Range of Forecasted Inflows, Alternative D.

Blue Mesa Forecasted Inflow	**Desired Peak @Whitewater**	**Duration of Half-Bank *(8,070 cfs)***	**Duration of Bankfull *(14,350 cfs)***
Acre feet	**cfs**	**days**	**days**
< 381,000	900	0	0
381,000 to 561,000	2,600	0	0
561,001 to 709,000	8,070	10	0
709,001 to 871,000	14,350	20	2
871,001 to 1,123,000	14,350	40	10
> 1,123,000	14,350	60	15

PREFERRED ALTERNATIVE

Alternative B has been identified as the preferred alternative because it is believed to avoid jeopardy to downstream endangered fish while still meeting Aspinall Unit authorized purposes. It also protects multiple resources, such as agriculture, recreation, and sport fisheries, which the public has cited as important considerations.

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The Gunnison River originates at the confluence of the East and Taylor rivers near the city of Gunnison. From that point, the river flows 25 miles to Blue Mesa Reservoir and on through Morrow Point and Crystal reservoirs. From Crystal Reservoir, it flows approximately two miles to the Gunnison Tunnel of the Uncompahgre Irrigation Project and then 29 miles to the confluence with the North Fork of the Gunnison River. It then travels 75 miles to its confluence with the Colorado River at Grand Junction.

Approximately one-half of the spring runoff in the Gunnison River Basin occurs upstream of the Aspinall Unit. The Gunnison River and the Aspinall Unit support valuable agricultural, domestic water, hydropower, recreation, and fish and wildlife resources. Special land uses and designations downstream from the Aspinall Unit include the Black Canyon of the Gunnison National Park, the Gunnison Gorge National Conservation Area, wilderness and wilderness study areas, and a Gold Medal fishery.

Environmental impacts of action alternatives are related to changes in the timing and magnitude of releases of water from the Aspinall Unit. As indicated previously, action alternatives would increase spring flows and, as a consequence, reduce flows at other times.

The following table summarizes impacts on important affected resources considered in the DEIS. Detailed information is provided in the DEIS.

Summary Comparison of No Action and Action Alternatives Selected for Analysis.

Resource	No Action	Alt A Risk of Spill	Alt B Fish Peak w/Duration	Alt C Fish Peak w/Increased Duration	Alt D Fish Peak w/Revised Target
Qualitative Summary (range from +5 to -5)					
Blue Mesa Reservoir Content	Neutral	-1	-1	-2	-1
Hydropower	Neutral	-1	-1	-2	-1
Black Canyon NP	Neutral	+1	+2	+3	+2
Flood Control	Neutral	-2	-1	-1	-1
Endangered Species	Neutral	+1	+3	+3	+2
Recreation	Neutral	-1	-2	-3	-2
Water Users	Neutral	+1	+1	+1	+1

ENDANGERED SPECIES ACT

A Programmatic Biological Assessment has been provided to the Fish and Wildlife Service and is included in Volume II of the DEIS. The purpose of the assessment is to evaluate the impacts of Reclamation's proposed action, which includes reoperation of the Aspinall Unit, on threatened, endangered, and candidate species and on critical habitat. Foreseeable future changes to the environment that result from continuation of state and private water related actions are included in the assessment.

The proposed Federal action analyzed in the assessment includes those discretionary actions proposed by Reclamation regarding water operations and management in the Gunnison Basin and in the portion of the Colorado River affected by the Dolores Project and Aspinall Unit. The elements of the Federal action are:

- Reclamation's modification of the operation of the Aspinall Unit to avoid jeopardy to downstream endangered fish in the Gunnison and Colorado rivers. The new operation is designed to increase downstream spring peak flows while maintaining moderate base flows.
- The continuation of all of Reclamation Project operations in the Gunnison River Basin. Reclamation projects are: Smith Fork, Paonia, Fruitgrowers, Bostwick Park, and Uncompahgre.
- The continued operation of the Dolores Project in the Dolores Basin, included based on a prior biological opinion Reasonable and Prudent Alternative and reinitiation of consultation on it to address new listed species and depletions.
- The continued operation of the Dallas Creek Project included based on a prior biological opinion Reasonable and Prudent Alternative and reinitiation of consultation on it to address new listed species and depletions.
- Actions undertaken by the Fish and Wildlife Service, Reclamation, the National Park Service, and Western Area Power Administration in the funding and carrying out of recovery actions for the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin that affect the Gunnison Basin.
- The continued operation and use of water rights of Federal agencies such as the Bureau of Land Management, Forest Service, and National Park Service. These are generally small stock watering facilities or developed wells and springs.

In addition to Reclamation actions, there are state organizations and private entities in the action area included in this consultation.

- The continuation of the operations and depletions of all non-Federal projects and water uses in the Gunnison Basin. Average annual depletions from these uses are estimated at approximately 250,000-275,000 acre-feet (af).
- The future depletion of 3,500 af of unspecified depletions in the Gunnison Basin is also included in the action as well as 30,800 af of Aspinall Unit water rights subordinated to upstream uses.

The Fish and Wildlife Service will prepare a Programmatic Biological Opinion that will be included in the final EIS.

CONSULTATION AND COORDINATION

Reclamation used several methods to obtain public input in developing the DEIS, including scoping and operation meetings and dissemination of public information through news releases and a project website.

There were two primary, and not fully compatible, concerns expressed during the scoping process: 1) the existing and future traditional benefits and uses of the Aspinall Unit should be protected in the EIS process, and 2) the EIS process should be used to restore river conditions to a more natural condition and assist in endangered species recovery. Major concerns expressed included:

- Effects of alternatives on water rights and supplies
- Effects of alternatives on water quality
- Effects of alternatives on recreation
- Effects of alternatives on fish and wildlife resources
- Effects of alternative on hydropower and flood control
- Need for completion of ESA compliance on Dallas Creek and Dolores Projects and other existing water uses
- Effect of alternatives on the Black Canyon National Park and coordination of alternatives with the reserved water right for the National Park

Agencies and organizations that serve as cooperating agencies during the EIS development are:

Colorado Department of Natural Resources	Southwestern Water Conservation District
Colorado Water Conservation Board	Platte River Power Authority
Colorado Division of Water Resources	Fish and Wildlife Service
Colorado Division of Wildlife	National Park Service
Colorado River Water Conservation District	Western Area Power Administration

Cooperating agencies have special expertise or authorities that can assist Reclamation in the EIS process. Cooperating agencies met to discuss methodology, scoping concerns, and development of alternatives. Informal consultation under the Endangered Species Act was conducted between Reclamation and the Fish and Wildlife Service. Alternative flow regimes were reviewed with the Service to develop operation plans to provide peak and base flows.